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Indian Standard
SIZES AND SHAPES FOR FIREBRICKS (300 mm AND HIGHER SERIES)

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 3 *May* 1970

Indian Standard

SIZES AND SHAPES FOR FIREBRICKS (300 mm AND HIGHER SERIES)

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Indian Standard
SIZES AND SHAPES FOR FIREBRICKS (300 mm AND HIGHER SERIES)

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 15 December 1969, after the draft finalized by the Refractories Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 The question of formulation of Indian Standard on sizes and shapes of firebricks has been engaging the attention of Refractories Sectional Committee of ISI for a long time. IS : 1526-1960* specifies nominal sizes and shapes for firebricks of 230 mm series. Realizing the importance of standardization in this field, amount of wastage that could be reduced and keeping in view the manufacturing and trade practices followed in the country, this standard has been prepared to cover the sizes and shapes of firebricks of 300 mm and higher series.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies nominal sizes and shapes for firebricks of 300 mm and higher series. This standard is limited to shapes which are mostly used in the steel plants and are common to several other industries.

2. TERMINOLOGY

2.1 The names given to the various shapes are those which are commonly used in the refractory industry and are indicated under the respective Figure (*see* Fig. 1 to 5).

3. SIZES

3.1 The sizes of firebricks shall comply with the nominal dimensions given in Table 1, read with Fig. 1 to 5.

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*Sizes and shapes for firebricks.

†Rules for rounding off numerical values (*revised*).

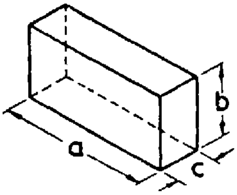

FIG. 1 STANDARD

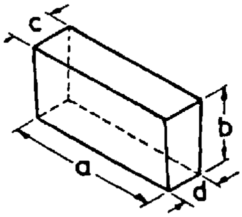

FIG. 2 ARCH

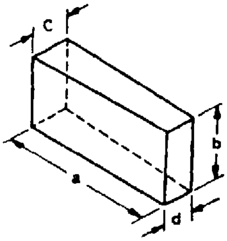

FIG. 3 WEDGE

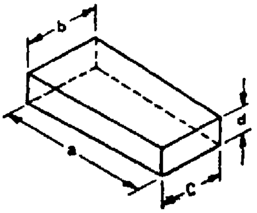

FIG. 4 KEY

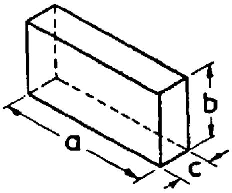

FIG. 5 SPLIT

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS

All dimensions in millimetres.

(*Clause* 3.1)

NAME OF BRICK	*a*	*b*	*c*	*d*
Standard (*see* Fig. 1)	300	113	75	—
	300	113	113	—
	300	150	65	—
	300	150	75	—
	300	171	75	—
	300	230	75	—
	300	230	113	—
	300	300	75	—
	300	300	150	—
	300	300	300	—
	345	113	75	—
	345	150	75	—
	345	230	75	—
	380	150	75	—
	380	225	75	—
	380	230	113	—
	400	113	75	—
	400	150	75	—
	400	171	75	—
	400	230	75	—
	460	113	90	—
	460	113	113	—
	460	150	75	—
	460	225	75	—
	460	225	90	—
	460	230	75	—
	460	230	113	—
	460	230	150	—
	500	150	75	—
	690	230	75	—
	690	230	130	—

(*Continued*)

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS — *Contd*

NAME OF BRICK	*a*	*b*		*d*
Arch (*see* Fig. 2)				
No. 1	300	113	75	70
	300	150	65	55
	300	150	75	70
	300	171	83	65
	300	230	75	70
	345	113	65	55
	345	113	75	70
	345	150	75	70
	345	230	75	70
	400	113	75	65
	400	150	75	50
	460	230	113	100
No. 2	300	113	75	65
	300	150	65	50
	300	150	75	65
	300	150	65	55
	300	171	75	65
	300	230	75	65
	345	113	65	45
	345	113	75	65
	345	150	75	65
	345	230	75	65
	400	113	75	50
	400	150	75	65
No. 3	300	113	75	50
	345	230	75	50

(*Continued*)

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS — *Contd*

Name of Brick	*a*	*b*	*c*	*d*
Wedge (*see* Fig 3)				
No. 1	300	113	75	70
	300	150	65	55
	300	150	75	73
	300	150	85	68
	300	150	85	75
	300	171	75	70
	300	230	75	70
	300	225	75	68
	345	113	75	70
	345	150	75	70
	345	230	75	70
	380	150	75	68
	380	150	85	75
	380	225	75	68
	400	150	65	60
	400	150	75	73
	400	171	95	65
	400	230	75	73
	460	113	113	90
	460	150	75	65
	460	150	80	70
	460	150	80	68
	460	150	85	75
	460	150	90	80
	460	225	80	70
	460	225	90	80
	460	230	75	65
	460	230	113	90
	500	150	75	73
	520	150	95	85

(*Continued*)

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS — *Contd*

NAME OF BRICK	*a*	*b*	*c*	*d*
Wedge (*see* Fig. 3)				
No. 2	300	113	75	65
	300	150	65	45
	300	150	75	70
	300	150	75	68
	300	230	75	65
	345	113	75	65
	345	150	75	65
	345	230	75	65
	400	150	65	55
	400	150	75	70
	400	171	80	70
	400	230	75	70
	500	150	75	70
	520	150	85	75
No. 3	300	113	75	50
	300	150	65	45
	300	150	65	55
	300	150	75	65
	300	230	75	50
	345	230	75	50
	400	150	65	50
	400	150	75	65
	400	230	75	65
	500	150	75	65
	540	150	90	80

(*Continued*)

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS — *Contd*

NAME OF BRICK	*a*	*b*	*c*	*d*
Key (*see* Fig 4)				
No 1	300	150	100	75
No 2	300	150	110	75
	300	150	120	75
	300	150	135	65
No 3	300	150	140	65
	300	150	140	75
	345	150	110	75
	345	150	125	75
	345	150	130	75
	380	150	125	75
	380	150	135	75
	380	150	148	75
	460	230	200	113
Split (*see* Fig. 5)				
No 1	300	113	40	—
	300	150	40	—
	300	230	40	—
	345	113	40	—
	345	230	40	—
	400	150	40	—
	400	230	40	—
	500	150	40	—
No 2	345	150	45	—

(*Continued*)

TABLE 1 SIZES AND SHAPES OF REFRACTORY BRICKS — *Contd*

Name of Brick	*a*	*b*	*c*	*d*
Split (*see* Fig 5)				
No 3	300	113	50	—
	300	150	50	—
	300	171	50	—
	300	230	50	—
	345	113	50	—
	345	230	50	—
	400	150	50	—
	400	171	50	—
	400	230	50	—
	500	150	50	—
No. 4	300	113	65	—
	300	171	65	—
	300	230	65	—
	345	113	65	—
	345	150	65	—
	345	230	65	—
	400	150	65	—
	400	171	65	—
	400	230	65	—
	500	150	65	—
No. 5	500	150	90	—

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	*Unit*	*Symbol*
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	*Unit*	*Symbol*
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	*Unit*	*Symbol*	*Conversion*
Force	newton	N	1 N = 1 kg. 1 m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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